Contacts: **Leiv Lea**
Pharmacyclics, Inc.
(408) 774-0330
Carolyn Bumgardner Wang
WeissComm Partners
(415) 362-5018

PHARMACYCLICS PRESENTATIONS AT AACR MEETING HIGHLIGHT XCYTRIN AND OTHER COMPOUNDS

Anaheim and Sunnyvale, Calif. -- April 20, 2005 -- Pharmacyclics, Inc. (Nasdaq: PCYC) today announced multiple presentations that further characterize the tumor biology and mechanism of action of Xcytrin® (motexafin gadolinium) and other compounds based on its technology platform. The presentations took place at the 96th Annual Meeting of the American Association for Cancer Research (AACR) in Anaheim, CA.

The seven abstracts at AACR highlighting the results from preclinical studies of Xcytrin and other Pharmacyclics compounds in cancerous cell lines were:

- "Motexafin-gadolinium induced apoptosis is caspase-dependent." Study results suggest that human lymphoma cells undergo apoptosis when treated with Xcytrin *in vitro*.
- "Motexafin gadolinium, a redox mediator, induces apoptosis in chronic lymphocytic leukemia B cells and is additive or synergistic with fludarabine." Researchers at Pharmacyclics and the Mayo Clinic isolated mononuclear cells from the blood of 15 chronic lymphocytic leukemia (CLL) patients and incubated them *in vitro* over 2-5 days with Xcytrin at varying concentrations. Xcytrin-induced cytotoxicity was found to be dose dependent, and CLL cells from 11 out of the 15 patients treated underwent apoptosis. These results support the evaluation of Xcytrin in ongoing CLL clinical trials.

- "Motexafin gadolinium mobilizes zinc and inhibits thioredoxin reductase in human cancer cell lines." Data indicated that Xcytrin inhibits the enzyme thioredoxin reductase and induces cell death *in vitro* in human cell lines. Thioredoxin reductase is critical to many cellular functions including cell replication, metabolism and oxidation-reduction (redox) regulation.
- "Potentiation of motexafin gadolinium cytotoxicity by celecoxib but not other cyclooxygenase-2 inhibitors." Study results indicate an additive effect of Xcytrin and celecoxib, a COX-2 inhibitor, on tumor suppression in animal models.
- "Motexafin gadolinium plus ascorbic acid increases the hypoxic radiosensitivity of EMT6 cells by decreasing glutathione levels and altering the GSH/GSSG ratio." Researchers at Yale found that Xcytrin enhances the activity of radiation in hypoxic (oxygen deficient) tumors by decreasing glutathione levels and altering redox balance.
- "Non-invasive optical pharmacokinetic system (OPS) measurement of motexafin gadolinium (GdTex) concentrations in tumors of SCID mice bearing MDA-MB-231 breast cancer xenografts." Researchers at University of Pittsburgh, working under a Collaborative Research and Development Agreement (CRADA) with the U.S. National Cancer Institute (NCI), developed a non-invasive method to detect Xcytrin in tumors and plasma.
- "Sapphyrins induce apoptosis in hematopoietic tumor-derived cell lines, result in enhanced phosphorylation of p38 mitogen activated protein kinase and demonstrate in vivo anti-tumor activity." Sapphyrins, a new class of compounds based on Pharmacyclics' technology platform, were shown to induce apoptosis *in vitro* in several hematologic cancer cell lines. In animal models, sapphyrins localized in tumors and inhibited tumor growth.

About Xcytrin

Pharmacyclics is developing Xcytrin as an anti-cancer agent with a novel mechanism of

action that is designed to selectively concentrate in tumors and induce apoptosis (programmed cell death). Pharmacyclics has been granted Fast-Track status by the U.S. Food and Drug Administration (FDA) for Xcytrin for the treatment of brain metastases (cancer that has spread to the brain from another part of the body) in non-small cell lung cancer (NSCLC) patients. Xcytrin is currently being evaluated in a randomized Phase 3 clinical trial (the SMART trial) that has just completed enrollment and is designed to compare the effects of whole brain radiation therapy (WBRT) alone to WBRT plus Xcytrin for the treatment of brain metastases in patients suffering from NSCLC. Xcytrin also is currently under investigation in several Phase 1 and Phase 2 clinical trials in various cancers evaluating its use as a single agent and in combination with chemotherapy and/or radiation therapy.

About Pharmacyclics

Pharmacyclics is a pharmaceutical company developing innovative products to treat cancer and atherosclerosis. The company's products are rationally designed, ring-shaped small molecules called texaphyrins that are designed to selectively target and disrupt the bioenergetic processes of diseased cells, such as cancer and atherosclerotic plaque. More information about the company, its technology, and products in development can be found on its website at www.pcyc.com. Pharmacyclics®, Xcytrin® and the "pentadentate" logo® are registered trademarks of Pharmacyclics, Inc.

NOTE: Other than statements of historical fact, the statements made in this press release about enrollment plans for our clinical trials, progress of and reports of results from preclinical and clinical studies, including results from our SMART trial, clinical development plans and product development activities are forward-looking statements, as defined in the Private Securities Litigation Reform Act of 1995. The words "believe," "will," "continue," "plan," "expect," "intend," "anticipate," variations of such words, and similar expressions also identify forward-looking statements, but their absence does not mean that the statement is not forward-looking. The forward-looking statements are not guarantees of future performance and are subject to risks and uncertainties that may cause actual results to differ materially from those in the forward-looking statements. Factors that could affect actual results include risks associated with the initiation, timing, design,

enrollment and cost of clinical trials; the fact that data from preclinical studies and Phase 1 or Phase 2 clinical trials may not necessarily be indicative of future clinical trial results; our ability to collect complete and audited data from clinical sites participating in our SMART trial; our ability to establish successful partnerships and collaborations with third parties; the regulatory approval process in the United States and other countries; and future capital requirements. For further information about these risks and other factors that may affect the actual results achieved by Pharmacyclics, please see the company's reports as filed with the U.S. Securities and Exchange Commission from time to time, including but not limited to its quarterly report on Form 10-Q for the quarter ended December 31, 2004. Forward-looking statements contained in this announcement are made as of this date, and we undertake no obligation to publicly update any forward-looking statement, whether as a result of new information, future events or otherwise.

###